

## A Comparative Study of Subcutaneous Fat Distribution Pattern of Male Junior and Senior Volleyball Players

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### Abstract

**Aim:** A Comparative Study of Subcutaneous Fat Distribution Pattern and Explosive Power of Male Junior and Senior Volleyball Players. **Materials and Methods:** The study was conducted on 60 male junior and senior volleyball players age ranged 17-20 years of junior volleyball players and age ranged 20-25 years of senior volleyball players. The subjects were divided into two different groups i.e. Group 1 was junior volleyball players and Group 2 was senior volleyball players. Each group consists of 30 volleyball players. The percentage fat of junior and senior volleyball players was evaluated as per the way described by Durnin and Womersley (1974). Body Mass Index can be measured according to the WHO (Laquatra, 2004). Body weight was checked with digital weighing machine. Comparison of Mean  $\pm$ SD and t-test was used to identify the significant differences between junior and senior volleyball players in selected subcutaneous fat distribution pattern. To observe the relationship Karl Pearson's coefficient of correlation was used among age, body weight, waist circumference, hip circumference, waist to hip ratio, body mass index and percentage body fat and percentage lean body mass variables of junior and senior volleyball players. The level of significance was  $p < 0.05$ . **Results:** The relationship among the variables showed that the anthropometric variables body percentage fat was positively significant related with age, height, weight, BMI, waist circumference, hip circumference, waist-to-hip ratio and percentage body fat at  $p < 0.05$  and highly significant correlation with each other at  $p < 0.01$ . Percentage lean body mass was negatively significant related with age, height, weight, BMI, waist circumference, hip circumference, waist-to-hip ratio, percentage body fat at  $p < 0.05$  and highly and negatively significant correlation with each other's at  $p < 0.01$ . **Conclusion:** it was concluded that the body fat percentage of the volleyball players of different groups were in the acceptable range. In other words, we can say no obesity was observed in them. The maximum body fat percentage was observed in senior volleyball players and minimum in junior volleyball players. The maximum lean body mass percentage was observed in junior volleyball players and minimum lean body mass percentage was observed in senior volleyball players. A positively relationship was found among the variables body percentage fat, age, height, weight, BMI, waist circumference, hip circumference, waist-to-hip ratio and skinfold thickness. Percentage lean body mass was found negatively relationship with age, height, weight, BMI, waist circumference, hip circumference, waist-to-hip ratio, skinfold thickness and percentage body fat.

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### Introduction

Volleyball is one of the world's most fashionable sports and because of its huge popularity many studies have been conducted in a challenge to understand the better program training required to